Poultry Fortune

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December 2019

Inside...

Editorial: Withdrawal of Growth Promoters and Antibiotic products by Zoetis will help Poultry sector



Zoetis
Withdraws
Growth
Promoters,
Antibiotic
products supply
for poultry and
other animals



'Healthy lifestyle with balanced protein intake is extremely important'

Poultry farmers lose Re 1 on every egg that people eat

Efficiency of Metal Propionates on Growth and Economics in Commercial Broilers

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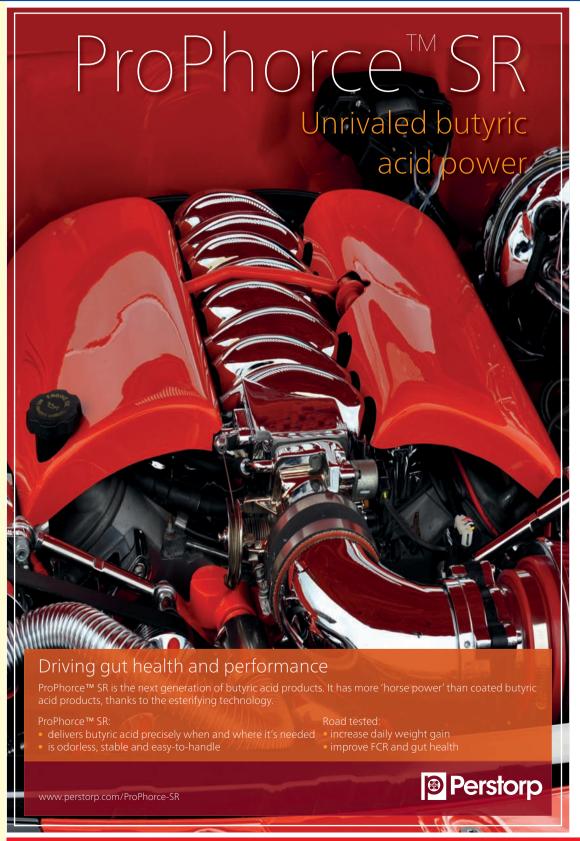


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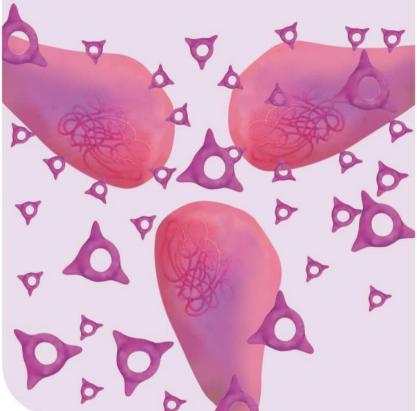
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Poultry Fortune

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- Editor



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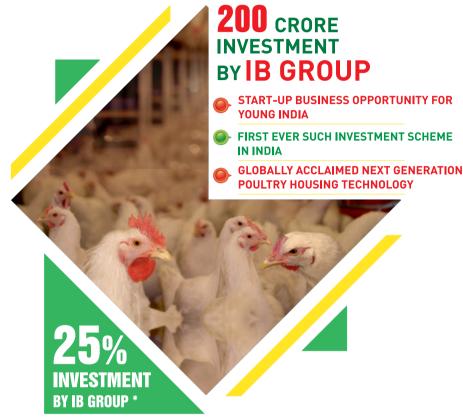
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Withdrawal of Growth Promoters and Antibiotic products by Zoetis will help Poultry sector



Dear Readers, The December 2019 issue of **Poultry Fortune** is in your hands.

In the News section, you will find news about

Zoetis, a leading Animal Healthcare products manufacturing company globally, has announced withdrawal of growth Promoters and Antibiotic products supply for poultry and other segments in animal husbandry sector, which is a welcome sign. Zoetis has taken good decision at a time when lot of discussion and rumours are going on in the society about use of Antibiotics and other harmful chemicals in poultry diet to the birds.

This kind of decision will safeguard the interests and welfare of both Egg and Broiler segments of poultry industry in India and all over the globe. We hope all the companies in Health and Nutrition products manufacturing sector will follow it.

Some sources in poultry industry say that in the last nine months, poultry farmers suffered a loss of Rs 7,500 crore in the country. At Rs 5 to 6 a piece, public / the consumers may be thinking that the egg prices have hit the roof. But on every egg that people buy, the producer is making a loss of Re 1. What farmers are getting is just Rs 3.80 to 4, leaving them in a loss of Re 0.75 to 1. In the last one month, the poultry farmers suffered a loss of Rs 7,500 crore. Each farmer has lost about Rs 250 on every bird that he owns in the last nine months. Poultry sector is reeling under severe stress due to increased cost of production, particularly feed costs.

Vets in Poultry organised "EggChi Walkathon" in Chandigarh on 17 November 2019 with the slogan "Tackle Protein Malnutrition" which attracted the people to create awareness about nutritional enrichment and to tackle protein malnutrition. Almost 10,000 Eggs and 100 kg Chicken was distributed, and the participants as well as visitors enjoyed it.

In the Articles Section, article titled "Overheated Chicks and the Indicator" discussed about overheated chicks have poorly absorbed yolk sacs and hence pigments are whiter than normal. Contaminated hatch debris and chick fluff in the hatchery are major sources of bacterial infection. Traditional chick grading standards do not always pick up damage due to overheating. Because overheated chicks hatch earlier than they should, they are often smaller, weaker and more prone to infections as well as a host of other health problems.

Another article titled "Efficiency of Metal Propionates on Growth and Economics in Commercial Broiler" discussed that trace minerals are vital in metabolic processes of poultry birds and tend to dissociate at low pH in the upper GIT. Deficiency of trace minerals leads to disturbance in metabolic processes resulting in lower production performance and reduced immune response. There are various forms of organic trace minerals that dissociate at the site of absorption to make minerals readily available for absorption.

Readers are invited to send their views and comments on the news, special feature and articles published in Poultry Fortune magazine which would be published under "Readers Column". Time to time, we shall try to update you on various aspects of poultry industry. Keep reading the magazine regularly and update yourself. Wish you all fruitful results in your efforts.

M.A.Nazeer Editor & Publisher Poultry Fortune



Our Mission

Poultry Fortune will strive to be the reliable source of information to poultry industry in India.

PF will give its opinion and suggest the industry what is needed in the interest of the stakeholders of the industry.

PF will strive to be The Forum to the Stakeholders of the industry for development and self-regulation.

PF will recognize the efforts and contribution of individuals, institutions and organizations for the development of poultry industry in the country through annual Awards presentation.

PF will strive to maintain quality and standards at all times.

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Zoetis Withdraws growth Promoters, Antibiotic products supply for poultry and other animals.

Zoetis engages on the "Continuum of Care" strategy to support the transition towards responsible use of antibiotics in India

Hyderabad: What made Zoetis decide to voluntary withdraw the product despite no Indian regulatory order on the same?

Zoetis decision to voluntarily withdraw growth promotion indications from the labelling of medically important antibiotic products in the portfolio is standing good on our resolve to make medically important antibiotics products to be approved exclusively for therapeutic purposes. Our step is a part of our commitment to join with veterinarian and livestock farmer's customers in helping to combat antimicrobial resistance. On the same front, we will work with national regulatory authorities in various countries, including India to engage on actions towards responsible use of antibiotics in respect with local regulatory interpretation and oversight. Mr Ketan Dhamanaskar along with his team of senior executive of Zoetis India addressed a press meet in Hyderabad on November 29.

"Zoetis is engaging in a collaborative effort with a major food chain company to train poultry producers in India about the responsible use of antibiotics on farms"



Ketan Dhamanaskar, General Manager, Zoetis India Ltd

Doesn't using such drugs as Tylosin or Lincomycin in poultry contribute to drug resistance and pose a public health risk to people?

We are at a point, especially in developing countries like India, where producers will have to meet the increasing demand. With few alternatives today for treating life-threatening bacterial infections in animals, optimal use of antibiotics is essential to animal health and, in turn, to their welfare. When antibiotic products are used properly and responsibly according to their approved indications -- and under the supervision of a veterinary professional -- they can help protect animal and human health, assure the safety of the food supply and help reduce the risk of resistance.

At Zoetis, we recognise that animal and human health are interdependent and therefore support the responsible use of antibiotic medicines in animals and in people. Zoetis advocates for taking a One Health approach to the responsible use of antibiotics across human and veterinary medicine.

Is Zoetis doing anything to ensure that such products are more closely regulated?

Zoetis continues to engage with regulatory authorities around the world to implement appropriate regulations to support the responsible use of antibiotics. Our veterinarians and field representatives support our customers by sharing knowledge on responsible use of our antibiotic medicines and animal health and husbandry protocols that can help prevent common diseases. For an instance, Zoetis is engaging in a collaborative effort with a major food chain company to train poultry producers in India about the responsible use of antibiotics on farms.

With the decision coming, is there any reason behind the timing?

We believe now is the right time for Zoetis to voluntarily withdraw growth promotion indications from

the labelling of medically important antibiotic products in our portfolio as we are engaging all stakeholders in this process, from regulatory bodies, to veterinarians and producers. Since this is about changing practices on the ground, it cannot happen overnight if you are not able to provide the technical support to help make that change.

With our Indian team, we believe that we are now in a good position to organize and support our customers through this transition as of June 2020 and therefore the decision.

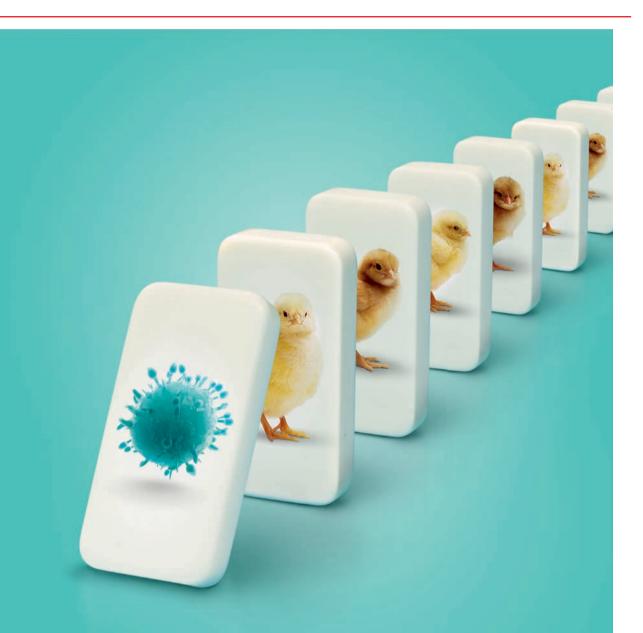
How does Zoetis India plan to assist its customers during the withdrawal phase? Like all medicines, antibiotics should chose the most appropriate antibiotic, and ensure the animal owner is correctly instructed on its use: the correct dose, correct route and correct length of treatment. With this understanding, Zoetis India is committed to actively consider the animal health needs of our customers, and will provide them with the knowledge, tools and solutions to make changes that may be needed.

With the products withdrawn, what are their other products that will ensure customer needs are duly met?

We have withdrawn the products, but other competitor companies



Ketan Dhamanaskar, General Manager, Y.Hari Prasad, Director, Dr Lalit Chaudhari, Group Product Manager, Dr Pankaj Lohan, Associate Directoer-Sales and Dr Renjith Nair, Senior Manager-Marketing & Technical during the press meet in Hyderabad on November 29



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have similar products still available in the market.

Where do you see the future of animal heath evolving into, to meet the challenges of increasing demand and antimicrobial resistance?

Healthcare trends are moving towards early identification/prediction, a preventative/proactive approach and medicines used responsibly to treat. The future of animal health will depend on integrating many different solutions and technologies to help livestock farmers and veterinarians make early and accurate decisions, prevent and detect disease, and deliver targeted, effective treatment. At Zoetis, we are focused on bringing more integrated solutions to our customers across this continuum of care Predict, Prevent, Detect and Treat.

The future can be gauged as increasingly our customers want solutions across the full continuum of care to help their animals return to health. Our innovations predict illness, prevent it, detect it and treat it

" Like all medicines, antibiotics should chose the most appropriate antibiotic, and ensure the animal owner is correctly instructed on its use: the correct dose, correct route and correct length of treatment. With this understandina. Zoetis India is committed to actively consider the animal health needs of our customers, and will provide them with the knowledge, tools and solutions to make changes that may be needed "

effectively with the right medicine, at the right time, at the right dose, for the right duration of time. As an example, the recent adoption from key poultry integrators of more Biodevice and automation machines, aiming at preventing diseases at early stage in birds and allowing a more sustainable approach to biosecurity and health management provide a glimpse of future of animal health.

What is Zoetis India growth strategy and what are the expansion plans currently in place?

We will focus on our poultry biologicals & disinfectants' portfolio to provide enhanced biosecurity to poultry farms. We will strengthen Bursaplex, immunocomplex vaccine for commercial broilers. We will expand our innovative solutions for hatcheries, Embrex Biodevice.

Company Profile: Zoetis

Zoetis is a global animal health company dedicated to supporting customers and their businesses in ever better ways. Building on 60 years of experience, company aims to deliver quality medicines and vaccines, complemented by diagnostics products and genetics tests and supported by a range of services. Company is working towards addressing the real-world challenges faced by those who raise and care for animals in ways they find truly relevant.

Zoetis is partnering with the customers to address their unmet needs with the most relevant innovations like genetics, diagnostics, digital tools and data analytics complemented with traditional medicines like parasiticides, vaccines and antibiotic treatments.

The future of animal health will depend on integrating many different solutions

and technologies to help livestock farmers and veterinarians make early and accurate decisions, prevent and detect disease, and deliver targeted, effective treatment. Zoetis, is focused on bringing more integrated solutions to our customers across this continuum of care.

Zoetis Inc is the world's largest producer of medicine and vaccines for pets and livestock. The company was a subsidiary of Pfizer, the world's largest drug maker, but with spinoff from Pfizer it is now a completely independent company. The company directly markets the products in approximately 45 countries, and sells the products in more than 100 countries. Company has 300 product lines catering to farm animals and companion animals. The product caters to the range of species like cattle, swine, poultry, sheep, fish, dogs, cats and horses. In India, the domestic sector

"With our Indian team, we believe that we are now in a good position to organize and support our customers through this transition as of June 2020 and therefore the decision "

is quickly adopting the new technologies that enhance the productivity, safety, and sustainability of poultry production. India is one of the world's largest producer of eggs and broiler meat, and the market is expected to grow to INR 4 billion by 2024.

Zoetis has 28 manufacturing units across the globe, each facility designed to meet chemical and infectious agent safety regulatory requirements. Many R&D operations are co-located with manufacturing sites, a collaboration that allows bringing new products to market faster.

About Ketan Dhamanaskar, General Manager, Zoetis India Ltd:

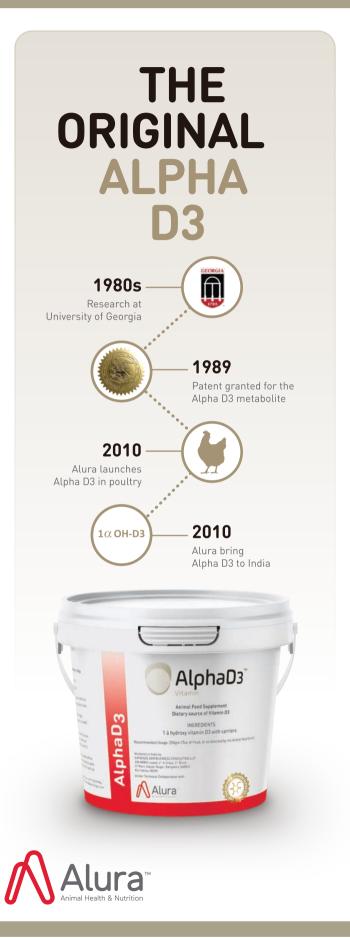


Mr Ketan Dhamanaskar is veteran with over 20 years of experience across the pharmaceutical industry with expertise in verticals like medical devices and animal health industry. Ketanhas worked invarious roles like brand management, business unit management, regional management and country management in India and abroad. At Zoetis, Ketan spearheaded the

successful separation and stand-up of Pfizer's animal health business to Zoetis India without business disruption and delivering year on year growth.

Before joining Zoetis India, Ketan was the Marketing Director at Renal BU, Baxter Inc responsible for Europe, Middle East, Africa (EMEA) markets based in Zurich, Switzerland. At Novartis, Ketan successfully built up the Ophthalmic business in India and EEMEA. Novartis nominated him for the Harvard Program as a part of his development. In the past, he has worked with many multinational organizations such as Roche, Novartis, Baxter and Pfizer.

Ketan holds a bachelor's degree in Pharmaceutical Sciences from Mumbai University and a master's degree in marketing management from Jamnalal Bajaj Institute of Management Studies. Ketan is also an alumnus of Harvard Business School, having completed a Senior Executive Leadership Program in 2018.



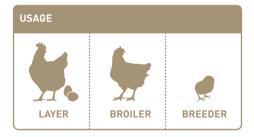


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'VIP holds EggChi Walkathon in Chandigarh with slogan "Tackle Protein Malnutrition"

'Healthy lifestyle with balanced protein intake is extremely important'



Dr Santosh Ire, Secretary, Dr Badal Singh, Head ECM- VIP North and Dr Ajay Deshpande along with others during EggChi Walkathon in Chandigarh

Chandigarh: Vets In Poultry (VIP) in support with CITCO & PMTA, on 17 November 2019 organized

EggChi Walkathon at Sukhna Lake, Chandigarh from 7.30 am to 11.30 am aiming to create

awareness about nutritional enrichment and to tackle protein malnutrition.

More than 800 participants who are health enthusiasts across TriCity participated during the walkathon. Almost 10,000 Eggs and 100 kg Chicken distributed and enjoyed by participants with all visitors.

With the aim to create an awareness (Tackle Protein Malnutrition) the Walkathon was flagged off by the VIP Secretary, Dr Santosh Ire along with other office bearers Dr Badal Singh (Head ECM, VIP North);

Dr Sudheer Saxena (Head of Dept., Cardiology, Max Hospital, Chandigarh); Mr Nitin Singla, Chandigarh and Mr Jodh Singh, Ambala.

Through this Walkathon, Vets In Poultry (VIP) shared India could be slowed if people are educated more clearly on how a change in lifestyle and the inclusion of daily healthy diet could help in protein malnutrition prevention.

Speaking on the occasion, Dr Badal Singh, Head ECM- VIP North said," Our message in today's walkathon is simple "Healthy lifestyle with balanced protein intake is extremely important". Eggs and Chicken are the best and affordable products from Poultry since Indian poultry is growing on all scientific basis and best to global standards".



the message that dietary imbalance contributes significantly for effective management of protein intake.

They also emphasized that the spike in instances of protein malnutrition in



EggChi Walkatho at a Glance

Dr Sudheer Saxena, Head of Dept., Cardiology, Max Hospital, Chandigarh explained," Protein deficiency in India is a matter of concern for nutritionists. Changing living conditions, stress and inconsistent diets are causing health problems. Cholesterol in eggs are good to body. Egg and Chicken consumption is effective tool to tackle Protein Malnutrition".

Dr Santosh Ire, Secretary VIP, brief about modern and scientifically managed Indian poultry practices. Cleared about all false myths spread in social media. Emphasis on best

and affordable protein sources: Eggs and Chicken. Dr Amol Pawar, VIPian, Pune endorse the same thoughts.

The organization thanked all contributing partners to make the event grand success. Nutrich, Prorich,



Farm Fresh, Ratan Eggs for providing free eggs and chicken. Alltech, Gartech, Provet, Kemin, Nutridian, Hipra, EW Nutrition, Alembic for sponsoring the event. Much needed help from these volunteers groups for the noble cause.

The event is appreciated & supported by almost all Associations of India in one go Poultry Farmers and Breeders Association –Maharashtra, CLFMA, Poultry Federation of India, NBA-HR, NECC, TPFBA-TA, KPFBS-KA, IVPI-KA, BCC-TN, PVF-TN, BFCC-GJ, WBPF-WB, IPJA, IPEMA and all others associations and bodies.

On behalf of VIP, its President Dr Ajay Deshpande, gave vote of thanks to each participants including North Poultry producers, Tricity Citizens, CITCO, PMTA, All Sponsors, Media Friends, Industry Colleagues, Government Officials and all.





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New Research Suggests Keto Diet May Help You Fight the Flu A ketogenic diet, which includes meat, fish,

A ketogenic diet, which includes meat, fish, poultry and non-starchy vegetables, may help combat the flu virus, suggests new research



A ketogenic diet, which includes meat, fish, poultry and non-starchy vegetables, may help combat the flu virus, suggests new research.

This diet regimen activates a subset of T cells in the lungs not previously associated with the immune system's response to influenza, enhancing mucus production from airway cells that can effectively trap the virus, said the study published in the journal Science Immunology.

"This was a totally unexpected finding," said co-senior author Akiko Iwasaki, Professor at Yale University in the US.

The researchers found that mice fed a ketogenic diet were better able to combat

the flu virus than mice fed food high in carbohydrates. Specifically, the researchers found that the ketogenic diet triggered the release of gamma delta T cells, immune system cells that produce mucus in the cell linings of the lung -- while the high-carbohydrate diet did not.

When mice were bred without the gene that codes for gamma delta T cells, the ketogenic diet provided no protection against the influenza virus.

"This study shows that the way the body burns fat to produce ketone bodies from the food we eat can fuel the immune system to fight flu infection," said co-senior author Visha Deep Dixit, Professor at Yale University.

New research into bird hunger aims to aid poultry welfare

Brain processes controlling hunger in birds are to be examined, to better understand how stress experienced during development in the egg impacts on chicks' appetite after they hatch.

Researchers hope to discover whether the development of brain circuits linked to hunger and satiety are affected by stress hormones in early life.

Findings from the £500,000 project, funded by the Biotechnology and Biological Sciences Research Council, could inform welfare management in the egg and poultry industries. Studies of quail – which are well developed and active upon hatching – will investigate whether stress

Studies of quail – which are well developed and active upon hatching – will investigate whether stress during development causes misregulation in their brain circuits, impacting appetite regulation.

Researchers at the Roslin Institute will investigate the effects that a stress hormone, corticosterone, has in fertilised quail eggs, mimicking the hormone signal deposited by stressed mother birds into their eggs.

Researchers will study embryos and chicks to compare the biological pathways for hunger and satiety in the brains of birds that have been exposed to stress with those that have not. They will also investigate whether early life stress affects feeding behaviour in newly hatched chicks.

The team will study gene activity to examine whether the key hormone and neural circuits that control appetite are changed in embryos and chicks that have experienced early life stress.

Electrical impulses in brain circuits linked to feeding will



The results will offer valuable insights on stress, which is known to have lifelong consequences for birds, linked to survival, breeding success, productivity, and health of offspring.

be recorded to investigate whether early life stress changes cells' sensitivity to glucose, which would impact on the body's metabolism – how much energy it needs to function. Glucose levels in birds'



brains are much higher than in mammals, indicating that glucose regulation may be more important in birds than in other species.

Professor Simone Meddle, Professor of Behavioural Neuroendocrinology, Roslin Institute, said: "This research will provide unique insights into the brain mechanisms that regulate appetite in newly hatched chicks and shed light on the mechanisms by which early life stress may program feeding circuits in the brain. Our findings could lead to improvements in the industrial management and welfare of eggs and chicks, and lead to significant economic benefits."

Illegal chicken dumpers in sights of trading standards in Darlington



An appeal for information has been issued after more than 20 large green crates full of putrid, decomposing chicken carcasses and other waste meat were dumped in various locations on the outskirts of Darlington.

Darlington Borough Council received a report from a member of the public on 14 November that chicken carcasses had been dumped by a picnic area off the A68. Civic Enforcement Officers attended the scene, where they found more carcasses dumped next to a bin in a layby on the A68. Details were passed to the council's Trading Standards' animal health team for further

A few days later, the council received another report that

investigation.

crates of chicken carcasses had been found in a layby on the B6275, just off the A68.

Officers from the Trading Standards animal health team attended and found yet more crates of carcasses, together with other waste meat, further down the road.

On 23 November, Civic Enforcement Officers discovered more carcasses had been dumped in a layby on the A68. All the carcasses and meat found have been removed for disposal.

Dawn Taylor, Darlington Borough Council's Trading Standards and Animal Health Manager, said:

"Whoever dumped these carcasses, which appear to have been professionally >>

Soya and fat levels increase in poultry feed to compensate for poor wheat quality



Farmers and feed advisers are being encouraged to analyse incoming cereal samples to ensure accurate feed formulation, after analysis of the 2019 wheat and barley harvest showed regional variations in protein and energy levels. Premier Nutrition's Eloise Lawlor said the Premier Nutrition harvest survey has confirmed that the protein of wheat has decreased.

"The national survey results have shown an average 0.4% drop in wheat protein levels, with energy also decreasing by 0.09MJ/kg" she said.

Lawlor said the general reduction in energy levels wasn't surprising, as this summer's changeable conditions have led to

"To compensate for these deficits in protein and energy, soya and fat inclusions may increase in your diet formulations," she said.

She said although the wetter conditions this year have influenced energy content, average mycotoxin levels across the UK remain low.

"Our report has highlighted regional variation and I'd therefore strongly recommend on-going local monitoring of cereal samples. To assist with any ration adjustments, our team of expert nutritionists will be on hand to help ensure accurate feed formulations are maintained."

prepared, has probably done so to avoid the cost of proper, legal disposal. We will work with council colleagues and other agencies to search for the culprits and bring them to

higher moisture content.

justice.

"We would urge anyone who has information that could help us identify those responsible, or sees anything suspicious to come forward."



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Fowl is fair for Poultry firms on better economy, lower feed cost



HYDERABAD: The Indian poultry sector hopes profit margins will improve considerably this winter season, ending a four-year weak streak as good rains have increased activity in the rural economy and reduced feed costs.

Anticipating a decent increase in demand, poultry breeders are preparing to boost production by 10-15 per cent, after pruning production and importing feed ingredients for three years owing to recurrent droughts.

Experts opine that a reasonable monsoon this year has resulted in improved rural incomes, which should result in increased demand and consumption of poultry products.

According to representatives of poultry bodies and large companies, demand should increase as the festival season, which typically witnesses a fall in meat consumption, has also ended. "We expect to improve our margins to the extent

of 15-20 per cent, which had earlier fallen below 10 per cent on account of lower realisations and high cost of production for the past few years due to consecutive draughts," said V Harshavardhan Reddy, vice-president of the Telangana Poultry Breeders Association.

Reddy, who is also a director at Hyderabad-based Mayuri Broiler Breeding Farms, said poultry producers expect production to grow 10-15 per cent during the November-February period. Telangana, along with Andhra Pradesh, is the largest producer of poultry products in the country, accounting for nearly a third of India's poultry production.

Experts opine that a reasonable monsoon this year has resulted in improved rural incomes, which should result in increased demand and consumption of poultry products.

"The poultry industry is expected to report strong profitability in the current

fiscal (year), post sizeable headwinds of last threefour years, on the back of a combination of factors, including improved demand dynamics from the rural segment... supply control measures adopted by the industry to counter seasonality of demand, recent moderation in feed prices and no major instances of bird flu," said Ravi Kabra, assistant vice president at ratings firm ICRA.

Prices of feed ingredients, especially maize and soya, that account for 70 per cent of the production cost, had shot up significantly over the past three years due to subsequent draughts. These have now started to cool off with the increased harvest reaching markets after a good spell of monsoon. "We are seeing a fall in prices from November where maize, which till October was selling at Rs 18 a kg, has dropped to Rs 15," Kabra

said. Soya has become cheaper at Rs 24 a kg, compared with Rs 32 earlier. With the drop in feed prices, poultry farmers are hoping to see higher margins this season. While broiler prices had shot up to Rs 90 a kg till September this year with production cost being around Rs 70, prices last year were hovering at Rs 70 level with cost at around Rs 65.Egg has become cheaper at Rs 4.50 from Rs 5 last year. "The improvement in margins is likely to bring the farmers, who had left the trade or shut down their farms few years back seeing higher costs and unfavourable margins, back into the fold," said Reddy of the breeders' body.

At present, the Indian poultry market is estimated at around Rs 67,000 crore with broilers accounting for Rs 42,500 crore and the table egg market at Rs 25,500 crore, said a recent ICRA report.

Kerala Feeds to launch country chicken feed



Kerala Feeds Ltd, the government-owned livestock feed producer, is set to market its nutrient-rich, layer feed for chicken. The affordable layer feed made of wholesome ingredients is meant for country breeds of chicken, and not for broiler chicken bred and raised specifically for meat.

The feed being launched as part of a product diversification by KFL will hit the market by mid-December. It will address the long-felt need for chicken feed for country breeds that are crucial to stepping up domestic egg production.

The product from KFL,

Contd on Page 24

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Bal Thackeray's death wrecked havoc on Maharashtra's poultry industry, chicken prices crashed to 25 pc

Three-day closure of markets highlights the Rs 18,000-crore Indian poultry industry's fragile 'just-intime' delivery model.

NEW DELHI: Shiv Sena supremo Bal Thackeray's death brought Mumbai to a standstill a couple of weeks ago. It also wrecked havoc on Maharashtra's poultry industry as the three-day closure of all markets in the city created an oversupply of chicken and sent prices crashing by 25 per cent.

"Every day, 4.5 lakh chickens are sold in Mumbai. So, farmers had to feed 13 lakh birds for those extra days when the market was shut.

The chickens grew from 2 kg to 3 kg. But this extra weight did not result in profits for the farmer because when the market reopened, the excess supply sent wholesale prices crashing from Rs 40 per kg to Rs 30 per kg," says C Vasanthkumar, president, Poultry Breeders Welfare Association of Maharashtra.

Such events highlight the Rs 18,000-crore Indian poultry industry's fragile "just-intime" delivery model where even a day's disruption in consumption can upset the delicate demandsupply balance and result in sharp fluctuation in prices and wipe out margins.

This, in an industry, which is already loss-making, Currently, a farmer spends Rs 110 to produce a 2-kg chicken. But the wholesale market is not willing to pay more than Rs 80 for it. In case the chicken is

fattened to 3 kg due to some unexpected disruption in delivery, it costs the farmer Rs 160 but fetches only around Rs 120. "The fatter chicken becomes a disadvantage because the average consumer doesn't want a bird larger than 2 kg.

So the extra meat is discounted and worsens our losses," says Vasanthkumar. Most farmers could shrug off the damage from an unexpected bandh or two. What keeps their profits permanently off-kilter is the stop-and-start nature of chicken demand in India.

"Our industry operates in a country of fasts and feasts," says a senior official at Venky's (India). The festivals and fasts vary across states, which fragments the market further.

For instance, most consumers turn vegetarian on Tuesdays and Thursdays. In Maharashtra, the 24-day period from Ganesh Chaturthi to Dussehra shows a 25 per cent drop in demand.

In Tamil Nadu, Easter is a lowdemand period. In the north, consumption plummets during the weeks of shraddh and navratri. Coming up is another episode of poor demand in the month of Margashirsha that will continue through December.

"No one knew of this festival month before. Only now it is catching attention," says another industry watcher.

"Other regional festivals like Karthik Purnima and

Rakshabandhan have also emerged as low-demand days," says the industry watcher. "The price of chicken has been even more volatile than input costs, which makes it difficult for the industry to manage production costs.

There is a lack of good information regarding the industry supply situation unlike in other countries where data is available to help companies coordinate supply and demand," said Pawan Kumar, an analyst at Rabobank, in a recent report on the sector.

Though most of the larger players in the industry supply frozen and packaged chicken to quick service restaurants, modern retail and the bigger grocery stores, they continue to sell a significant share of their production in the live

bird or 'wet' market. So they too remain exposed to the price volatility created by frequent demand disruptions.

Almost 95 per cent of the Indian chicken meat trade is in the unorganised wet market. Companies now factor in these consumption dips in their balance sheets.

"We expect the first quarter to be very good. The second quarter is depressed due to the month of shravan and festivals like Ganesh Chaturthi the third and fourth quarters in winter are usually good. This year's poor third-quarter performance is due to exceptionally depressed prices," said the managing director of a large integrated poultry company who did not wish to be named.

"It is a regular occurence for the industry to grow faster than demand due to anticipation of higher seasonal surges causing big price declines," says Rabobank's Kumar.

Kerala Feeds to launch country chicken feed

Contn from Page 22

which processes and markets high quality feed for cattle and other livestock breeds at affordable prices, will be a boon for households that rear indigenous breeds of chicken in the open.

"The launch of the product meets our firm commitment to back the State government's policy of supporting over a million dairy farmers and household chicken raisers in Kerala," KFL Chairman KS Indusekharan Nair said.

B Sreekumar, MD, KFL, said, "We will be marketing the best quality poultry feed

at an affordable price. Like our other products, we are confident of maintaining high quality for this one as well "

A range of KFL products are available across the State, despite a shortage of high-priced raw materials. Almost 99 per cent of the raw material needed for feed production is sourced from other States, he added.

The steep rise in demand for raw material for fodder in North India has also posed some problems for KFL, Sreekumar said, adding that the company's new plant at Thodupuzha would be commissioned shortly.



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DOSAGE CAN BE ADJUSTED AS PER VETERIANS

DOSAGE:

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Transport box for Hatchery: 100gm/1000 Chicks.

Grower or Layer for weight gain: 100gm/100 birds 7-10 Days.

PRODUCT COLOUR CHANGE WILL NOT AFFECT PEROFRMANCE



NDK – VACCINE

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Poultry farmers lose Re 1 on every egg that people eat

In the last nine months, they suffered a loss of Rs 7,500 crore

At Rs 5-6 a piece, you may be thinking that the egg prices have hit the roof. But on every egg that you buy, the producer is making a loss of Re 1.

"What farmers are getting is just Rs 3.80 - 4, leaving them in a loss of Re 0.75 - 1. In the last one month, the poultry farmers suffered a loss of Rs 7,500 crore," Chakradhar Rao, President of the Indian Poultry Equipment Manufacturers' Association (IPEMA), has said.

Protests

The event witnessed protests by angry poultry farmers who demanded support prices for their produce.

They created a flutter in the inaugural as they raised slogans, holding placards.

They alleged that the NECC (National Egg Coordination Committee) has failed to attend to their grievances. Demanding elections to the national body, they said the farmers in the egg production regions such as Tamil Nadu, Telangana and Andhra Pradesh were losing heavily because of the



" Each farmer has lost about Rs 250 on every bird that he owns owns in the last nine months," he said.

Talking to BusinessLine on the sidelines of Poultry India 2019 here on Wednesday, he said that the poultry sector is reeling under severe stress due to increased cost of production, particularly feed costs.

He said the industry can't take the cost burden if the farmers are forced to reduce the number of birds in a cage.

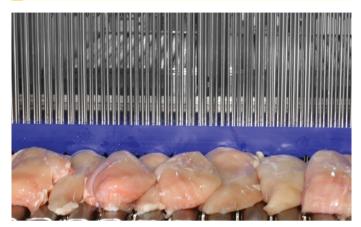
Claimed to be the Asia's biggest poultry expo, the three-day event, which began today, attracted over 375 poultry equipment and product companies from India and abroad.

lopsided pricing of the egg.
"The NECC is not
coordinating well. They
need to convene regular
meetings with stakeholders
such as farmers, farms
and traders to listen to the
issues on the ground," A
K P, who represents the
Namakkal constituency in
the Lok Sabha, said.

Echoing the views expressed by the protestors, he said the (egg) production have been hit very hard because of the poor pricing issues.

Telangana Animal Husbandry Minister Talasani Srinivasa Yadav assured that the issue of support price would be discussed at the upcoming meeting of the Cabinet Sub-Committee on the poultry industry.

Keeping control of the temperature in injecting and marinating



Injecting and marinating are two of the most important processes in the production of poultry-based products and German manufacturer Henneken has a range of injectors that can process all species with both bone-in and boneless operations.

James Radcliffe is divisional manager of Interfood Systems, which is the UK and Eire partner for the injectors and brine & marinade preparation systems manufactured by Henneken. "One of the most important factors in meat preparation is maintaining the correct temperatures," he said.

"This is particularly true of white meat, where recognised best practice is to keep below 4°C

throughout the process.
Providing effective
temperature control is
therefore a real focus in the
equipment we supply."

The HVM brine and marinade mixer is available in 400, 650, 1,000 and 2,000 litre capacities, with the option of double jacket cooling available for all sizes. The HPI injector is available in three working widths (350mm, 450mm and 650mm).

Henneken produces the majority of the component parts for its equipment rather than simply buying them in and assembling. The manufacturing takes place at the company's purposebuilt 6,500 square metre facility near Paderborn.

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Farming in focus: Poultry can lead the way in sustainable farming, says Aidan Connolly

Aidan Connolly, chief innovation officer at Alltech, has written extensively on recent innovations in agriculture and livestock which may shape the landscape of food production going forward.

Sustainability has become part of the vernacular of most industries. How do you feel the poultry industry is progressing in its push to be more sustainable?

The poultry industry probably perceives itself as being very sustainable. Of course, feed conversion continues to come down, and indeed we are now predicting that we can grow a 2kg chicken with 2kg of feed by 2022. Something we forget, of course, is that chickens are not just dry matter but contain a lot of water so the theoretical feed conversion we should be able to achieve could be much lower than that.

It's also clear that we have to think about things like greenhouse gases; we have to think about the fact that a lot of water is used in the processing plant and other factors which might influence what eventually creates the footprint of the chicken. All of that said, clearly from a sustainability perspective, the poultry industry has a very good story to tell, both for broilers and for eggs, and continues to improve thanks to genetic selection and other improvements in terms of housing etc.

What do you feel are the greatest challenges to sustainable broiler and egg production today?

I think to a large degree we are still very imprecise in our knowledge of how to manage chickens. A lot of this is down to the fact that we have very little real data about how chickens are produced at the level of individual birds. That is, we tend to manage for the average or for the flock and not for the individual bird, but within that flock there is, of course, tremendous variation.

This is even the case in terms of egg production, where we may get, if we choose, two numbers per cage. But quite often we measure egg production per line, and we certainly don't measure feed or water consumption on an individual bird basis. This is where I think the greatest improvements can be made, alongside understanding which nutrients are being consumed, potentially through in-line NIR (near infrared) systems, but aiming to become even more precise than that.

What are some recent or potential innovations which could help to overcome these particular challenges?

There certainly are great opportunities such as within the eight technologies that I've talked about before - things like robots and sensors: both of these can collect information and help us to manage birds more effectively without human intervention. Ultimately, I think we're moving toward machine vision and artificial intelligence where decisions will be made in a manner which is in many ways more intelligent than human decision-making.

Crypto technologies such as blockchain will allow us to have traceability systems that show the ways in which the product is moving through the system: all the inputs into the feeding of that animal and into the production of the meat at the end of the process. Overall, this will be more favourable from a consumer perspective, although frankly there is no guarantee that consumers will be happy with it. From my point of view, there is a lot of potential there.

Also, technologies such as virtual reality and enhanced reality are going to be harder to implement and we are inexorably moving towards a reliance on the internet of things.

What will it take for highwelfare, environmentally friendly chicken and eggs to become as affordable as the conventionally raised alternatives?

I believe that when you look at these challenges it often seems as though they are going to increase the cost of production. In actual fact, there are frequently opportunities to avoid that and arrive at a better place. We have seen this with things such as the recycling of water and packaging which in the end bring their own economic advantages. From my perspective, welfare and environmentally friendly practices appear to be costs at the moment, but if we can understand them and increase bird welfare we may well end up with better feed conversions and feed efficiencies, less stress - and therefore less disease - and better meat

quality, all of which have to be positive things. Making lemonade out of lemons as we sometimes say; perhaps it will take longer and more imagination, but embracing technologyand nutrigenomics - that is, the precise feeding of nutrients from a gene expression perspective - are essential for what we need to do.

There's a quietly growing trend in agriculture to go "beyond sustainable" and "beyond organic" by striving to regenerate the land. How can poultry production contribute to the "regenerative agriculture" movement?

I think that poultry probably has a better story to tell in terms of minimal impact on the environment. The use of things like poultry litter and ensuring that that achieves better uptake with plants might allow for better retention and result in less leaching into the soil. What we all strive for is an eventual restoration of the land and to work towards making the area we're farming into a better place than it was when we found it. I am not entirely sure we have yet seen this principle truly being applied, but this might change with the advent of precision agriculture. But from my perspective this is something which can be achieved. I feel that the poultry story is not only a good story from the point of view of where the sector is at currently, but it's also a good story from the point of view of progress in the meat industry as a whole. This is a species that will most easily arrive at the next stage in sustainable farming - and that will answer questions that other species will struggle to address.



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Egg yolk: From light yellow to deep orange, here's what it means

Does the colour of yolk make a difference



Eggs are one of the most popular foods in the market. Everyone, rich or poor, partakes in the consumption of the superfood. The smell of egg might be off-putting to some, but anyone who has eaten it can tell you eggs-actly how delicious it is. There are so many ways to prepare an egg, so there is a recipe to fulfil everyone's eggs-pectations. The key source of nutrition in an egg is the yolk, which contains most of the fats, calories, vitamins and minerals. We usually associate the yolk of an egg as being deep orange. Indians would know that more often than not, this is not the case. Most eggs we buy in the market are light orange or pale yellow. So what gives yolks their colour, and is any one colour better than the other? Let's find out.

What gives the yolk it's colour



First of all, let us understand what causes the yolk to be a dark or a light shade of orange. The colour of the yolk has nothing to do with the quality or flavour of the

egg, although yolks of different colours may possess different micronutrient concentrations. But more on that later. The colour of the yolk depends solely on the diet of the hen, and there are certain compounds found in food that influence the colour of the yolk.

Dark orange



Eggs with a dark orange yolk are mostly laid by pasture-raised hens. The colour of the yolk is influenced by a healthy and well balanced diet. Pastureraised hens are allowed to roam on outdoor pastures, where their diet is supplemented by fresh grass and nutritious omnivorous foods like worms, beetles, grasshoppers, and spiders. This diet is rich in carotenoids, which gives living organisms a red or orange colour, therefore causing the dark orange yolk colour. However, a hen doesn't have to be pastureraised to lay an egg with a dark orange yolk. Any hen can lay such an egg if fed nutritious food.

Mid orange to yellow



Hens raised on a vegetarian diet lay eggs with light coloured yolks. Such hens are fed foods like corn, alfalfa, and beans, all of which are rich in a pigment called xanthophylls, which is responsible for giving plants and animals the colour yellow, hence influencing the colour of the yolk. This is the most common yolk colour.

Pale yellow



Hens that are fed a diet that comprises of foods low in xanthophylls, such as wheat, white cornmeal, or barley lay eggs with pale yellow, or in some cases even white yolks.

Implications on health



Hens fed more nutritious food will not only lay eggs with a darker coloured yolk, but the eggs will also be bigger in size. When it comes to nutrition, eggs with a darker yolk have been shown to contain higher levels of vitamins A and C, and omega fatty acids. However, although the macronutrient composition is the same for eggs with different yolk colours, we have to also take into account the size of the egg. A larger egg will certainly contain more nutrients because of the higher albumin and yolk concentration.

What about the shell colour?



Unlike the colour of the egg yolk, the colour of the egg shell does not depend on the hen's diet. Rather, the colour of the egg shell depends on the breed and colour of the hen. Hens with white feathers lay whiteshelled eggs, and hens with red feathers lay brownshelled eggs. But why are brown-shelled eggs more expensive? The breeds that lay eggs with a brown shell are much larger, and are therefore fed food with more nutrition and in higher quantity. So the cost of raising these hens is pricier.

Bottomline



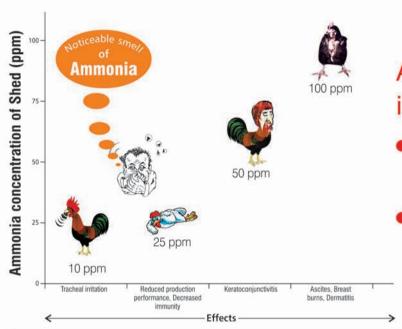
There are many diets that are given to chickens in order to raise them. What the hens eat is what they lay. More nutritious the diet, darker is the colour of the yolk. At the end of the day, the way you prepare the egg will make all the difference. So making a delicious omelette with a pale yellow egg yolk might get lauded more than making a disastrous omelette with a dark orange yolk.

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AmmoFree Premix

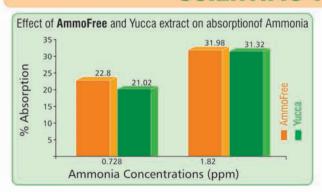
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PRESENTATION

1 kg



1 kg

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The economics of an EGG: It's all pain and no gain for farmers

The sale price is no match for the production costs

The nutritional benefits of the egg — the proteins, the vitamins and the carotene that helps eyesight — are well documented and recognised. It's, however, not the case with the economic aspects of the product — the breakup of investments that a poultry farmer puts in under various heads to produce an egg are neither well documented nor widely recognised.

The difference between the cost of production and sale price is always to the disadvantage of the farmer. Though it has been the norm for the past few years, the difference now is often breaching ₹1 in some egg production areas in the country.

The egg, which is arguably the best source of nutrients at that price, is very weak when it comes to the economics of its production. The farmers who are producing the eggs, making India the second biggest producer in the world after China, are bleeding. A protest by a group of egg producers at the ongoing India Poultry Expo – 2019 here has highlighted the harsh reality.

Annual production

India produces about 90 billion eggs annually, with Tamil Nadu, Andhra Pradesh, Telangana, West Bengal and Haryana producing the bulk of them. A quick check with the protesting farmers threw light on the costs involved. The farmers peg the cost of production (or farm gate price) of an egg at ₹4.09 (some say it could vary between ₹3.80 and ₹4.09.), while the retail prices are

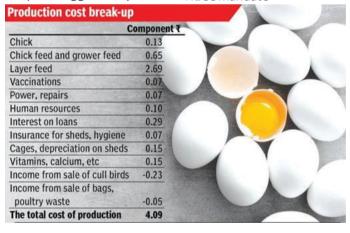
ruling at ₹5-6 a piece. The breakup reveals layer feed is the highest component (see table).

There are also intangible costs, such as the losses occurred due to the death of birds or lower production by a bird. "Remember, this breakup is after assuming that a bird lays 310 eggs (average yield of a bird) in a year. While the cost of production is going up because of sharp raise in feed costs and other costs, the price suggested by

leads to a fall in the prices due to the skewed demandsupply equation.

A top NECC executive, however, denied the allegation of the protesters. "The NECC divides the country into 24 zones, with local representatives manning such zones. It is not to correct to say that the NECC doesn't know what's happening at the production centres," MB Desai, a senior leader of NECC, has said.

NECC mandate



the NECC (National Egg Coordination Committee) always falls short of it. This leaves us with losses," an NECC member farmer alleged.

Losses this year

Estimates peg the losses in the range of ₹150-₹250 a bird so far this year, resulting in a total loss of ₹7,500 crore.

In 2018, while the cost of production was at ₹3.83, the average NECC price stood at ₹3.62. This year, the average NECC price is at ₹3.66 against a cost of production of ₹4.09.

One protester alleged that there is a glut of broiler (what people consume) and layer (egg laying) birds due to excess production at the hatcheries. This, he claims, NECC's mandate includes the declaration of "reasonable price for eggs that offers a fair return to farmers, decent margins to the middleman and a fair price to the customer." It also monitors egg stock levels at different production centres and supply needs in the consumption States, and seeks to maintain a balance between demand and supply.

Some poultry farmers feel the NECC is not doing enough to protect their interests. AKP Chinraj, Lok Sabha MP from Namakkal, the hub of egg production in Tamil Nadu, backs their view. He has opined that the NECC should talk to the producers and traders

regularly to discuss the issue.

"Another key reason is a sharp increase in feed (maize) costs. Feed takes the lion's share in the cost of production, consuming 50-60 per cent of the total costs. Maize prices were ruling well over ₹2,000 a quintal, making it unaffordable for us," a protester contended.

The protesters allege that the NECC, which declares indicative prices, has lost touch with the ground level realities.

Maize prices

The Centre had fixed a minimum support price (MSP) of ₹1,760 a quintal of maize for the 2019-20 season. The Telangana government did release the commodity at ₹1,850 from the Markfed. "But due to lack of awareness, small farmers could not benefit much. At one point, prices went up to as high as ₹2,300-₹2,500," said the protester quoted earlier. In the open market, maize

In the open market, maize prices have cooled down a bit but the farmers are yet to see the commodity arriving at the poultry farms.

Scaling down

How long can the poultry farmers take the pressure? "Some of the farmers are shutting down or scaling down operations. It is no longer viable," said the protester.

Chakradhara Rao, President of the Indian Poultry Equipment Manufacturers' Association (IPEMA), said it was time the farmers scaled down production. The only other option is to continue with the same production levels and suffer losses, he added.

"It is up to them to increase demand and get a better price, reducing production by 5-10 per cent, or produce more and get lower prices," he observed.



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JOB PROFILE No. 2

Designation	Headquarter	Experience Required	Minimum Qualification	стс
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Poulpro Agencies takes up SKM Best Egg products for Hyderabad



N. S. P Murthy, Managing Partner, Poulpro Agencies showing SKM Best Egg products pack

Hyderabad: The Erode based SKM Universal Marketing Company India Pvt Ltd has appointed Poulpro Agencies located at Hyderabad as authorised distributor for Hyderabad covering areas of L. B. Nagar, Santosh Nagar, Gachibowli and Hitech city to supply SKM's Best Egg products (Protein Meal)

with effect from June 2019. The products will be available in general trade stores, supermarkets and bakery stores. Mr N. S. P Murthy is the Managing Partner of Poulpro Agencies.

SKM's Best Egg products will provide quality egg protein and will reduce protein deficiency and shall improve health care to the consumers. SKM are an integrated manufacturers, marketers and exporters of egg products based in Erode, India. They process 1.8 million eggs every day in their EU certified farm. They process conforms to ISO 22,000, BRC, KOSHER AND HALAL certification requirements. SKM Egg products are exported to Europe, Japan and many countries in Asia.



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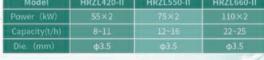
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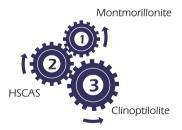
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Efficiency of Metal Propionates on Growth and Economics in Commercial Broilers

Partha Pratim Das, Venket M Shelke, Saravanan Sankaran and Rahul Mittal

Kemin Industries South Asia Pvt Ltd

INTRODUCTION

Incorporation of trace minerals in poultry diets play a vital role in metabolic processes in birds and are indispensable for optimum growth and development. Trace minerals mostly act as catalysts in many enzyme & hormone systems and hence affects growth, bone development, feathering, enzyme function, and feed intake, etc. Any deficiency of trace minerals is typically manifested as disturbances in multiple metabolic processes, resulting in lower production performance, loss of appetite, reproductive disorders and reduced immune response. Trace minerals are mainly supplemented in poultry diets as inorganic combinations like salts of sulphates and oxides, but the availability of minerals from these inorganic sources are low and variable. Trace mineral salts tend to dissociate at low pH in the upper gastrointestinal tract (GIT), leaving the minerals liable to several nutrient and ingredient antagonisms that impair absorption and thus reduce bioavailability. Mineral requirements for modern high vielding broiler strains are more and hence, in recent years, usage of organic trace minerals in poultry diets owing to higher bioavailability and lesser mineral interactions are focused.

Organic metal complexes are compounds containing a central metal atom (acceptor of electrons) that forms either a co-ordinate bond or covalent bond with ligands (i.e., proteins, amino acids, organic acid, carbohydrates, or lipids) through hetero atoms such as oxygen (O), nitrogen (N) or sulphur (S) with a free electron pair. Importance of organic mineral supplementation of zinc, chromium and selenium has been proven to improve the performance and anti-oxidant responses. For an ideal organic trace mineral, the complex should dissociate at the site of absorption to make minerals readily available for absorption. There are various forms of organic trace minerals available based on ligands associated in the complex. These forms improve the performance of birds through enhanced absorption properties with lesser inter-mineral interactions in comparison with inorganic sources. Kemtrace® Supreme is a complete organic metal propionate mixture produced by a single process termed integrated organic mineral production system (IOMPS) (containing metal propionates) designed for poultry needs with propionate bonding. The dissociation of metal propionates occurs at a pKa value of 4.8 (distal end of gizzard), thereby facilitating the minerals for better absorption in the small intestine. It contains eight minerals – zinc, manganese, copper, cobalt, chromium, iron, iodine and selenium. A comparative trial was conducted to assess the growth and economical advantage of Kemtrace® Supreme over commercially available proteinate based organic trace mineral product in commercial broilers.

TRIAL OBJECTIVE & DESIGN

The objective of this study was to evaluate and compare the dietary incorporation of metal propionates and proteinate based trace minerals in commercial broilers on growth performance, carcass characters and economic benefits. The 35-days study was conducted in a well-designed trial farm facility in Northern part of India under commercial farming conditions. A total of 240 (Vencobb-400) day-old chicks were randomly divided into 2 dietary treatments with 6 replicates, each replicate containing 20 birds. All the treatments were fed with corn-soya based pellet diets conforming to breed specifications with an exception on the supplementation of trace mineral preparation and dosage. The details of experimental groups and dosage levels are given in Table-1 respectively.

Table-1: Details of experimental groups and dosage levels

GROUPS	DOSAGE
Metal Proteinate	500g/Ton
Kemtrace® Supreme	500g/Ton

PARAMETERS MEASURED

- ◆ Body weight (BW)
- Feed conversion ratio (FCR)
- European efficiency factor (EEF)
- Carcass Characteristics
- ◆ Economic Benefits
- Return on investment (ROI)



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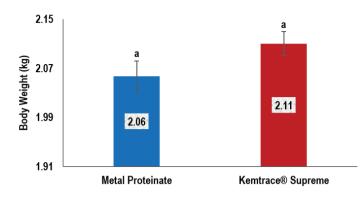


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RESULTS & DISCUSSION

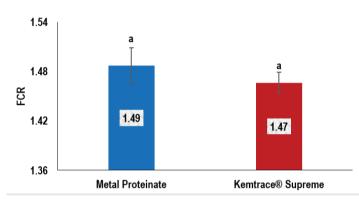
1. BODY WEIGHT



mean ± SE: n=6; P≥0.05

Fig-1: Average body weight of treatment groups at the end of trial.

2. FEED CONVERSION RATIO



mean ± SE: n=6; P≥0.05

Fig-2: Feed conversion ratio of treatment groups at the end of trial.

3.EUROPEAN EFFICIENCY FACTOR (EEF)

To determine the production efficiency of various treatment groups EEF was calculated using following formula

European Efficiency factor (EEF)

$$= \frac{Liveability(\%) \times Live\ weight\ (kg)}{Age\ in\ days\ \times FCR} \times 100$$

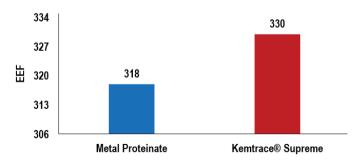


Fig-3: Calculated EEF of treatment groups at the end of trial.

4. CARCASS CHARACTERISTICS

Table-2: Carcass Characteristics of the treatment groups

Treatment Groups	Live weight (g)	Dressed weight (g)	Dress- ing %	Fat %
Metal Pro- teinate	2,673	1,636	61.22	2.16
Kemtrace® Supreme	2,750	1,719	62.50	2.12

5. ECONOMICS BENEFITS & ROI

Table-3: ROI & Economic Calculations

PARAMETERS	METAL PRO- TEINATE	KEMTRACE® SUPREME
Number of birds	120	120
Final body weight (kg)	2.06	2.11
Total live weight harvested (kg)	238.61	244.76
Total Income (INR)	16,702.84	17,133.20
Cost of Production per kg live weight (INR)	60	59
Net Income (INR)	2,410	2,712
Extra Income over Metal Proteinate (INR)	-	303
ROI	-	6

There was no significant (P≥0.05) difference in body weight and FCR between the groups at the end of trial. But, treatment with Kemtrace® Supreme at 500g/MT showed numerically higher body weight with 2-points better FCR over metal proteinate at 500g/MT (Fig-1 & Fig-2) dosage. Highest EEF with an ROI of 6:1 was recorded in Kemtrace® Supreme than metal proteinate (Fig-3). Results for carcass characteristics for total dressing percentage and abdominal fat pad was determined at end of trial (Table-2). Highest dressing percentage was noticed in Kemtrace® Supreme with lowest abdominal fat pad deposition over metal proteinates (Table-2).

CONCLUSION

Supplementation of Kemtrace® Supreme outperformed in terms of body weight, FCR, EEF, abdominal fat % and ROI when compared to metal proteinates. Based on the present study, it can be postulated that metal propionates (Kemtrace® Supreme) can be considered as a useful product than the trace minerals conjugated with other organic forms, in terms of overall performance parameters and ROI in commercial broilers.

srilatha. atmakuri@kemin.com



Overheated Chicks and the Indicators

Highlight Points

Overheated chicks have poorly absorbed yolk sacs and hence pigments are whiter than normal. Contaminated hatch debris and chick fluff in the hatchery are major sources of bacterial infection.

G. K. Rathinam, Hatchery Specialist, Technical Consultant

Traditional chick-grading standards do not always pick up damage due to overheating. Because overheated chicks hatch earlier than they should, they are often smaller, weaker and more prone to infections as well as a host of other health problems.

To properly assess chicks and establish if they have overheated, check for the following characteristics:

- 1. Color and Strength: Chicks should be bright yellow. Overheated chicks have poorly absorbed yolk sacs and hence pigments are whiter than normal. Also, chicks should be active and be able to stand up right away. If placed on their backs, they should turn over within seconds.
- **2. Yolk-free Body Mass (YFBM):** Overheated chicks are smaller and have bigger, non-absorbed yolk sacs. The more serious cases of poorly absorbed yolk sacs translate in unhealed navels.

Some yolk is left, as chicks need that for nutrition during their very first hours. This is quickly absorbed and should be gone about the time chicks' transition to feed/water. If there is too much yolk, however, live chick weight is lower and indicates a weaker chick.

3. Chick/Shank Length: Overheated chicks are smaller since they used available protein during incubation as an energy source, rather than fuel to grow muscle. This

is apparent when the chicks' shank length falls below the established target, as indicated in the chart below.

Breeder Age (in weeks)	Target cm (in)	Too Small cm (in)
26-35	19-21 (7.5-8.25)	<17.5 (6.9)
36-45	19.5-21.5 (7.68-8.46)	<18.0 (7.1)
>45	20-22 (7.85-8.65)	<18.5 (7.3)

- **4. Feathering:** Good feather development is synonymous with good chick development during incubation. Chicks should look dry and fluffy soon after hatching. However, excess development of the wing feathers does indicate early hatching and most likely overheating due to prolonged time in the hatcher baskets.
- **5. Disease Control :** One consequence to overheating embryos is they are more susceptible to Colibacillosis, or E. Coli. Colibacillosis prevention includes good hygiene of hatching eggs and good hygiene in the hatchery.

Contaminated hatch debris and chick fluff in the hatchery are major sources of bacterial infection. It is also important to follow good hygiene during waste disposal. Properly disinfecting the hatcher trays will kill bacteria and prevent E. Coli.

gkrathnam@gmail.com

Why African farmers are waking up to the huge potential of guinea fowl

In Africa the potential of guinea fowl largely remains untapped across the continent's sprawling markets.

Mr Tawanda Karombo

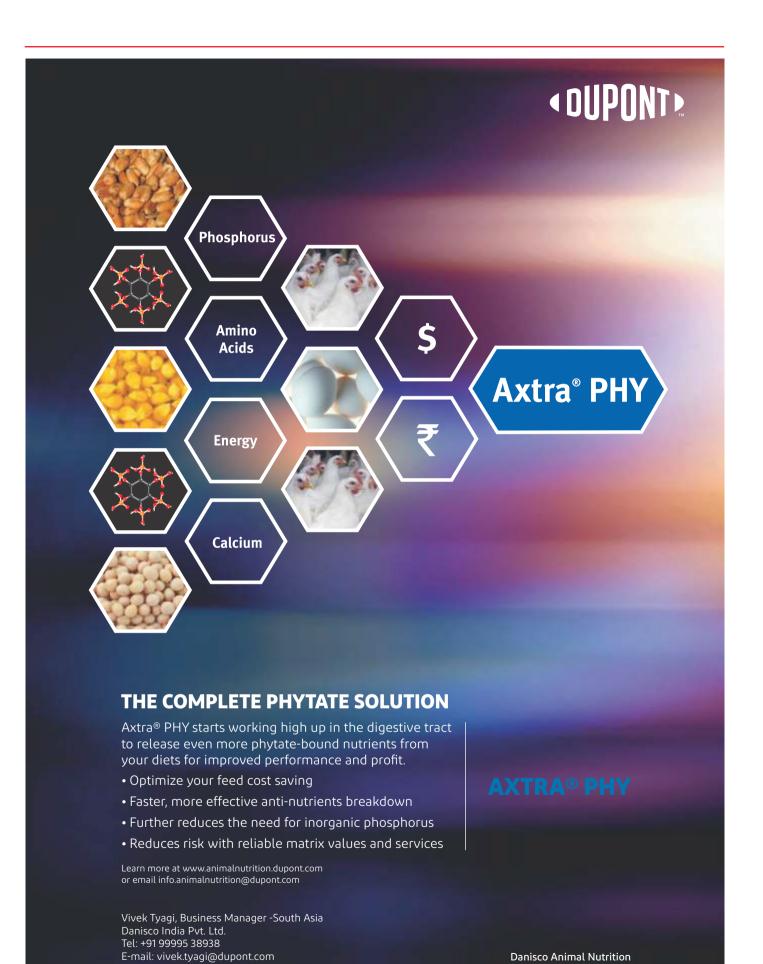
Poultry farming is generally taking off across Africa but has for a long time been dominated by the production of broiler chickens, with free-range chicken farming also on the rise. Now, guinea fowl farming is shaping up into a commercial venture in southern African countries such as Zambia, Malawi and Zimbabwe while in West Africa, Ghana is a front runner, owing to massive support being given to farmers from the World Bank.

According to Dr Chisoni Mumba, senior lecturer in livestock and animal-health economics at the University of Zambia's School of Veterinary Medicine, guinea fowl production remains a largely "unexploited investment opportunity in Zambia" and in other African countries in the region.

In Zambia, whose production trends also mirror practices in neighbouring Zimbabwe and Malawi, guinea fowl

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rearing "is practised in combination with free-range chickens among small-scale farmers," while commercially viable production farms are also emerging. Among the advantages of guinea fowl that are beginning to be appreciated is that they are considered to be more resistant to common poultry afflications, such as Newcastle disease, compared to chickens.

This is corroborated by experts such as Abdul-Rahman, II, who co-authored the paper "Guinea fowl value chain: preferences and constraints of consumers", published in 2019 in the African Journal of Food, Agriculture, Nutrition and Development, which says:

"Guinea fowls are easier to manage by resource-poor farmers with hardly any access to formal veterinary services because they are resistant to most poultry diseases. Housing is rudimentary and health-management practices depend largely on ethno-veterinary medicine." The paper's authors also note, however, that in Africa, the birds are still predominantly "raised as free range scavenging birds" while the subsector has also "seen little genetic improvement" across major markets.

The World Bank has been supporting guinea fowl farmers in Ghana under the West Africa Agricultural Productivity Program (WAAPP) capacitation framework. Under this programme, guinea fowl population in Ghana now accounts for about 7 percent of the national poultry population and farmers in northern Ghana obtained more income from the guinea fowl than from chicken, which highlights opportunities for further growth and effective commercialisation.

Mr Franklyn Yeboah, deputy director for Ghana's Ministry of Food and Agriculture, who was one of the team leaders of WAAPP, told The Poultry Site that despite the numerous advantages and opportunities for commercial guinea fowl production in Ghana and across Africa, production of the birds "has not received enough attention and the needed support" to enhance production.

Guinea fowl production, particularly in West Africa, is saddled with some constraints that include poor hatchability and the high mortality of keets at farmer level; a lack of prophylactic treatments such as vaccination and deworming; and poor early sexing techniques that would help maintain adequate breeding stocks. Other challenges for African guinea fowl farmers include a weak scientific and technological information base on local breeds and feed formulations, inadequate funds to expand enterprises and weak development up the value chain.

Value-chain support is one area that is worrying experts on guinea fowl production in Africa. The University of Zambia's Dr Mumba is convinced that "the guinea fowl value chain is 99 percent informal" and highlights that this occasions challenges for further value-chain development. For example, guinea fowl farmers across African markets such as Malawi, Tanzania, Kenya and others still use informal means of marketing their products as there are no formal markets or platforms to promote value-chain development.

"To develop the value chain, we need to put support mechanisms along the entire value chain," says Mr Mumba. "Thus we must balance production and consumption." Some of the support mechanisms at a production and consumption level include effectively strengthening and commercialising egg handling, incubation and chick management."

One of the major barriers to growing the industry, says Mr Mumba, is the "unavailability of incubation services in most rural and peri-urban areas where these farming activities occur". In the few areas that do have access to such services, meanwhile, the cost is usually too high for the farmers to afford.

A high hatch rate would improve the number of guinea fowls produced by each guinea fowl farmer, but environmental factors such as adverse weather conditions can have a negative effect on brooding. This is "due to a lack of knowledge of brooding, as most guinea fowl farmers are used to natural brooding done by chickens... which are exposed to excess rain, heat and cold due to poorly constructed" poultry houses.

Feeding is also something that requires adjustment. "Most guinea fowl farmers in Zambia and in Africa practise freerange rearing systems with little or no supplementary feeding. They do not know how much to feed guinea fowl chicks and what nutritional content [is required]. What medicine, vaccines or vitamins do these chicks need and at what age and frequency? These animal-management practices would be vital if we were to commercialise the guinea fowl value chains in Africa," explains Mumba.

In Ghana, the past few years have seen an increase in support for guinea fowl production through developmental projects such as Smallholder Agricultural Development Project (SADEP), Smallholder Rehabilitation Development Programme (SRDP) and part two of the WAAPP project. Together these initiatives have resulted in a growth in capacity and financing. One outcome has been the "introduction of 1,000 capacity incubators and technical support" to farmers, which, according to Augustine



In Ghana, the past few years have seen an increase in support for guinea fowl production through developmental projects such as Smallholder Agricultural Development Project (SADEP), Smallholder Rehabilitation Development Programme (SRDP) and part two of the WAAPP project



Danquah, the monitoring and evaluation specialist for WAAPP, resulted in "farm expansion through higher bird population, and increased incomes and livelihoods" for Ghanaian guinea fowl producers.

As many as 80 beneficiary farmers in the three regions in northern Ghana were endowed with high-capacity incubators, generators, feed, eggs, drugs and vaccine as starter-packs, with the WAAPP programme rapidly expanding to cover more than 8,000 farmers in the country.

"Furthermore, many farmers are aware of the commercial potential of guinea fowl production," says Yeboah. "Good husbandry practices to ensure increased productivity; the use of incubators to hatch more eggs; the use of homegrown vaccine (NDI-2) to combat Newcastle disease; and the establishment of a guinea fowl training centre in the north are some of the benefits derived through the implementation of projects such as WAAPP 2A to achieve some success in guinea fowl production in Ghana."

This is feeding in to other key advantages around guinea fowl production in Africa. According to poultry producers from the Chalus Farm in Zambia, the birds are good egg layers. They also advise that the laying of eggs, which needs to be controlled, is mainly concentrated between August and April.

"They lay their eggs in large clutches away from the coop, preferring bushy or dark areas. Guinea fowls are poor at taking care of their young and if you do have keets, you are

better off taking care of them yourself... In order for us to maximise the number of eggs collected, it will be prudent to have a large coop for the fowls with an outer enclosure for them to roam but not wander off from your farm."

Apart from regional exports, "smoked guinea fowl meat is a delicacy and is often exported to family relations in Europe and America," strategically boosting the farmers' earnings through foreign-currency receipts. Dr Mumba also believes that guinea fowl consumption can be boosted through "incentivising consumption by improving access to high-value markets" in the region and abroad.

As Zimbabwean poultry producer Thompson Manatse – whose projects include guinea fowl and free-range chickens – says, enhanced knowledge and capacitation are key to unlocking the full potential of the industry. Research and genetic diversification to come up with the best breeds is also key, which highlights the slow base that the African guinea fowl farming industry is springing from

"There is demand – sometimes we can't even match demand. If we can secure funding to expand, we can actually further develop into a large-scale producer with potential for exports. We need more research, more knowledge and best practices that help us conserve resources," says the Zimbabwean farmer, based just outside the capital, Harare.

Effects of Gano-met on growth performance in broilers in summer

Life Rainbow Biotech

Introduction

Gano-met® (Life Rainbow Biotech Co., Ltd. Taiwan) is a liquid supplement containing methionine hydroxy analog (MHA) and Ganoderma lucidum extract that can be applied into drinking water for poultry. Methionine is considered as a limiting essential amino acid in poultry diets. Synthetic Met, such as MHA, is widely used in feed to meet the nutritional requirement. MHA also exhibit hepatoprotective action, acidifier, and antibacterial effect. G. lucidum, a precious Traditional Chinese Medicines, contains a number of bioactive compounds such as polysaccharides, triterpenes, and glycoproteins, which own health-promoting effects. Polyssacharides are the major bio-active compounds of G. lucidum due to their pharmacological properties, that possess immunomodulator and antioxidant features. The objective of the following trial was to access the response on broilers when administrating with Gano-met® via drinking water during summer.

Method

75,800 broilers (AA) were randomly divided into control group (42,000 birds) and Gano-met® group (33,800 birds) and both fed with commercial diet throughout the 5-week experimental period. The Gano-met® group was administrated with Gano-met® (1 L/ton water) into drinking water using 3 days per week. Till 5 weeks, all broilers sold to market.

Results

The results of this trial are presented in Table 1. The survival rates of the control group and Gano-met® group were 98.64% and 98.43%, respectively. The Gano-met® group had a higher average selling weight. To compare the growth results of broilers from different buildings, production indexes were analyzed which show that the Gano-met® group performed better than the control group.





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Table 1 Effect of Gano-met® on growth performance in broilers

	Control group	Gano-met® group
Avg. selling weight, kg	2.10	2.14
Survival rate, %	98.64	98.43
Feed efficiency(F/W)	1.41	1.41
Days of feeding	33	33.3
Production index ¹	445.18	448.62

¹Production index was calculated as follows: 100× (survival rate × selling weight)/ (days of feeding × feed efficiency)

Conclusion

The trial period was from August to September (2019), and the location was in central Taiwan. The average

temperature of these two months were 28.6°C and 27.9°C; the highest temperature were 33°C and 33.4°C, and the relative humidity were 88.3% and 77.8%, respectively. Heat stress in summer is a major economic threat to poultry farming, which can reduce feed intake and cause lethargy, which affects growth performance. The basis for reducing heat stress should start with equipment, and then enhance the poultry's resistance to stress from nutrition aspect, including Gano-met® supplementation. This trial demonstrates that Gano-met® can help broilers improve their nutritional utilization and increase their selling weight.

Does poultry growing pose a real threat to the world?

Mr Stanley Kaye

In recent years, I have sometimes found myself a bit embarrassed to be connected to the poultry industry. I was a proud broiler grower for many years and later became a poultry consultant. As awareness of sustainability and global warming grow, I have begun to have a strange feeling that I am on the wrong side of history.

The latest reminder came recently with the publishing of a special report on climate change and land by the Intergovernmental Panel on Climate Change (IPCC), which called on the world's population to cut meat consumption.



The report strengthens the general assumption that meat is an inefficient way of feeding people as it takes more grain to feed animals to make meat than would be required if people just ate the grain directly. Thus, it wastes resources, valuable water, and contributes to world hunger and global warming.

For a long time, I had accepted this narrative without really thinking about it. Then I recalled Antoine Lavoisier's 1785 rule of conservation of mass – "matter cannot be created or destroyed." I suddenly thought that if the feed conversion

of broilers is 1.7 (ie, it takes 1.7kg of feed to produce 1kg of chicken meat), where did the other 700 gram go?

What happened to the grain that did not become chicken meat? Has it all been destroyed? Could one assume that it has all become greenhouse gasses?

It may be true that eating poultry is wasteful, but on the other hand there are hungry people all over the world who need to be fed. The first intuitive thought is that since growing poultry produces less meat than the original feed, it must be that eating meat is contributing to global hunger.

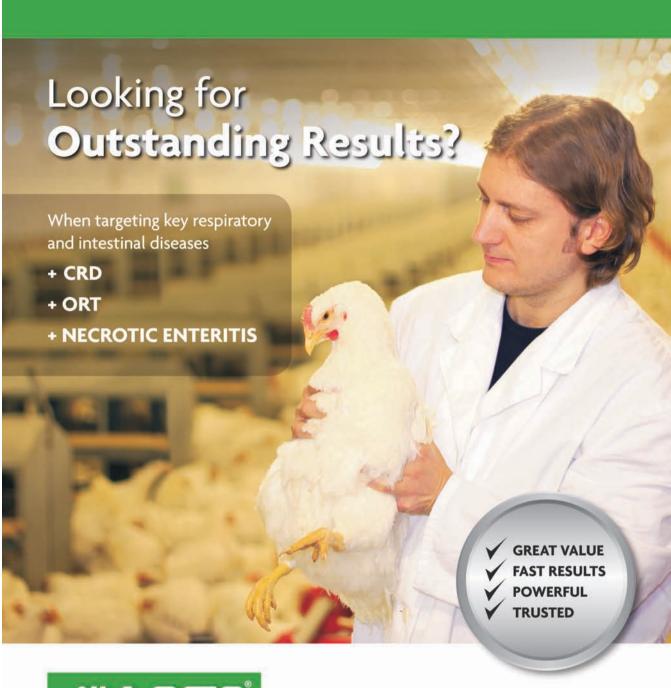
The truth, however, is that, at least in 2019, there is no shortage of food in the world. The world currently produces more than enough food to feed everyone. Yet, 815 million people (roughly 11 percent of the global population) went hungry in 2016.

The problem does not arise from a world shortage of food which leads to higher prices everywhere, but from specific distribution problems.

According to the UN Food and Agriculture Organization, international food prices are at a historic low. The World Food Programme of the UN listed 34 countries that needed food aid in 2017. Almost all are in conflict areas such as the Horn of Africa or failed states.

The claim that the world will soon run out of food has been made constantly since the Reverend Thomas Robert Malthus expounded his doctrine in 1798. When this was written the world population was about 1 billion. Now, 220 years later, it is 7 billion and food is more plentiful than ever. The world population is expected to stabilise in 2050 at around 9 billion, so there seems to be no reason why technological and organisational improvements in agriculture will not be able to bridge this gap.

Returning to global warming, we must remember the positive benefit of growing maize as animal feed. According to the United States Department of Agriculture (USDA),





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one acre of corn removes 8 tons of CO2 from the air per season. As this plant is "inhaling" CO2, it is "exhaling" O2 and one corn acre produces enough to supply oxygen to 131 people for a year.

Last year, American farmers planted 88 million acres of corn, which is enough oxygen for more than a billion people. If we grew less corn, there would be more CO2 in the atmosphere and less oxygen.

So, if it takes 2.5kg of feed to produce one kg of processed chicken meat where do the other 1.5kg go? I started wondering about this as I became involved in projects connected to the "circular economy."

As a poultry farmer I tended to think in linear terms: input is feed, output is meat and everything else is waste.

The circular economy looks at flows. In simple terms,

this means that there are two outputs from a poultry farm - meat and droppings. In the circular economy the droppings are not waste, but a source of energy, fertiliser and protein. The same is true of the mortality and waste products from the slaughterhouse and processing plant.

Energy can be derived from the litter by either burning it in special systems or producing biogas. In both cases, there will be production of energy and the remains after the treatment will be good fertiliser. Which system is appropriate depends on many factors including climate and the economic value of the energy (electricity, gas, hot water) that is produced. Alternatively, the waste can be composted directly to produce organic fertiliser.

In all these cases, we can see that by returning the fertiliser to the land in a managed way, the soil will constantly improve, leading to higher yields.

Many of the technologies to implement the circular economy for poultry meat and eggs are already in place. We know that generating electricity from coal pollutes and contributes to global warming. The best solution for this problem is to generate clean electricity (wind, solar, etc) rather than do without.

Similarly, for poultry meat (and eggs) the solution is to utilise all the by-products (and maybe generate clean electricity at the same time).

The feed conversion rate has fallen rapidly over the last few decades as a host of new technologies come onto the market. I think the day is near when growing chicken can be close to carbon neutral, if not better.

Effect of yeast extract on early intestinal tract development of broilers

Over the past decades, genetic improvements have stimulated broiler production resulting in birds weighing ± 3kg in 42 d. To reach this genetic potential, the absorption and digestion of nutrients and according morphological and functional development of the small intestine in the early life must be impeccable. Before hatch, uptake of nutrients by the chicken embryo is limited but rapid increase in villus length and formation of intestinal crypts, have been reported close to hatch and during the first 8 to 10 d of life. Considering the rapid development of the small intestine, it was the objective of this study to evaluate the effect of different concentrations of 2 yeast extracts on gut development in early life. Two thousand three hundred and four (2304) day-of-hatch male broiler chicks (Ross308) were divided into 7 treatment groups with either 6 or 7 replicates of 40 birds each. Broilers were fed at libitum from hatching until 14 d of age, a control diet (non-supplemented control) or the control diet supplemented with either yeast extracts A or B at increasing concentrations (125, 250 and 500 g/ton of feed). At d 6, 2

randomly selected birds per replicate were sacrificed to investigate gut morphology in the duodenum, jejunum and ileum. Cryostatic slides were prepared and treated with periodic acid-Schiff to stain mucus glycoproteins. Villus length and number of goblet cells were measured in micrographs of known magnification. Statistical analysis was performed by Student's t-test comparing the mean values of the treatments with the non-supplemented control. In the duodenum, supplementation of both yeast extracts at 125 and 250 g/ton, resulted in an increased villus length. Additionally, supplementation of yeast extract A at 250 g/ ton was also able to increase villus length in the jejunum. No difference on either crypt depth or villus/crypt ratio could be found. Goblet cell counts were increased with supplementation of both yeast extracts at 250 and 500 g/ton in both duodenum and ileum. It can be concluded that the inclusion of yeast extracts in the diet have beneficial effects on the gut development by increasing the absorptive area and mucus layer.

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